

BEAM POWER AMPLIFIER

DESCRIPTION

The GL-5686 is a heater-cathode type miniature beam power amplifier designed for dependable operation under service conditions encountered in mobile and aircraft use. The tube is suitable for Class A audio power-amplifier service or for Class

C radio-frequency power-amplifier service up to 160 megacycles. Multiple leads on the cathode and screen grid facilitate radio-frequency by-passing at high frequencies.

TECHNICAL INFORMATION

GENERAL

Electrical Data

Cathode—indirectly heated

Heater voltage..... 6.3 volts

Heater current..... 0.35 ampere

Direct interelectrode capacitances

With Shield

Without Shield

Grid No. 1 to plate..... 0.08 max 0.11 max uuf

Input..... 6.5 6.4 uuf

Output..... 8.5 4.0 uuf

GENERAL  ELECTRIC

Supersedes ETX-244 dated 5-50


Electronic
 TUBE

TECHNICAL INFORMATION (CONT'D)**Mechanical Data**

Mounting position—any
Envelope—T-6½ glass
Base—Miniature button 9-pin

MAXIMUM RATINGS Design Center Values**CLASS A₁ AMPLIFIER**

Plate voltage	250	volts
Grid No. 2 voltage	250	volts
Plate dissipation	7.5	watts
Grid No. 2 dissipation	3.0	watts
Grid No. 1 circuit resistance		
Fixed bias	0.1	megohm
Self bias	0.5	megohm
Peak heater-cathode voltage	±90	volts

TYPICAL OPERATION**CLASS A₁ AMPLIFIER**

Plate voltage	250	volts
Grid No. 2 voltage	250	volts
Grid No. 1 voltage	-12.5	volts
Transconductance	3100	micromhos
Plate current (no signal)	27	milliamperes
Grid No. 2 current (no signal)	5.0	milliamperes
Load resistance	9000	ohms
Power output	2.7	watts

MAXIMUM RATINGS Design Center Values**CLASS C RADIO-FREQUENCY AMPLIFIER**

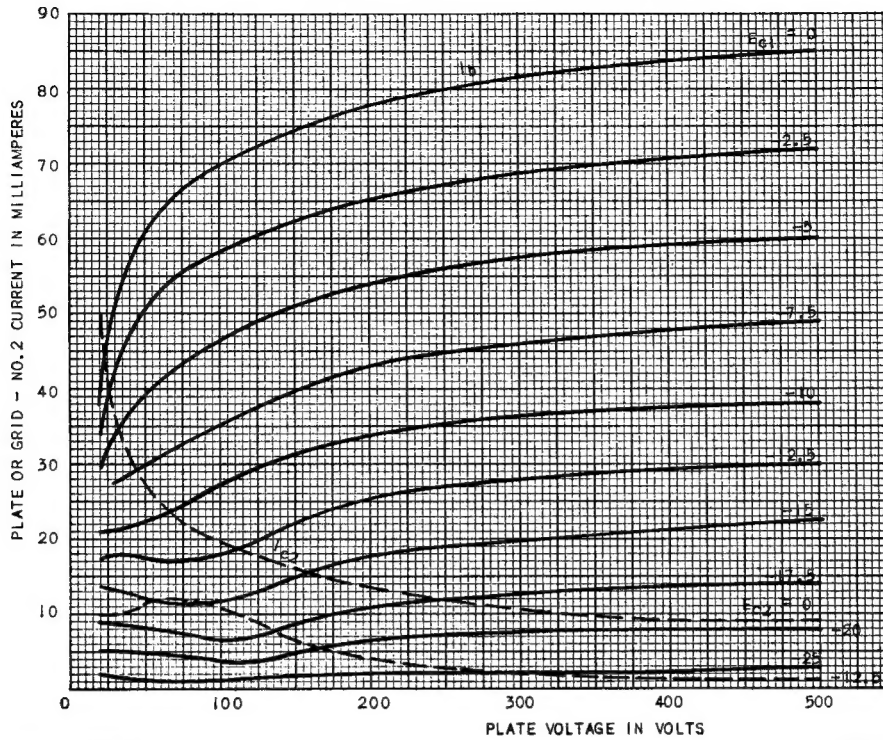
Plate voltage	250	volts
Grid No. 2 voltage	250	volts
Grid No. 1 voltage	-150	volts
Plate Dissipation	7.5	watts
Grid No. 2 dissipation	3.0	watts
Plate input power	10	watts
Plate current	40	milliamperes
Grid No. 2 current	15	milliamperes
Grid No. 1 current	3.0	milliamperes
Peak heater-cathode voltage	±90	volts
Grid No. 1 circuit resistance	50,000	ohms

TYPICAL OPERATION**CLASS C TELEGRAPHY RADIO-FREQUENCY AMPLIFIER UP TO 160 MEGACYCLES**

Plate voltage	250	250	volts
Grid No. 2 voltage	180	250	volts
Grid No. 1 voltage	-30	-50	volts
or Grid No. 1 resistor	15,000	25,000	ohms
Peak R-f grid No. 1 voltage	50	75	volts
Plate current	30	40	milliamperes
Grid No. 2 current, approximate	6.5	10.5	milliamperes
Grid No. 1 current, approximate	2.0	2.0	milliamperes
R-f grid driving power, approximate	0.10	0.15	watts
Power output, approximate	5.0	6.5	watts
Useful power output at 125 megacycles		5.25	watts

GL-5686
AVERAGE PLATE CHARACTERISTICS
 $E_{c2} = 250$ VOLTS
 $E_f = 6.3$ VOLTS

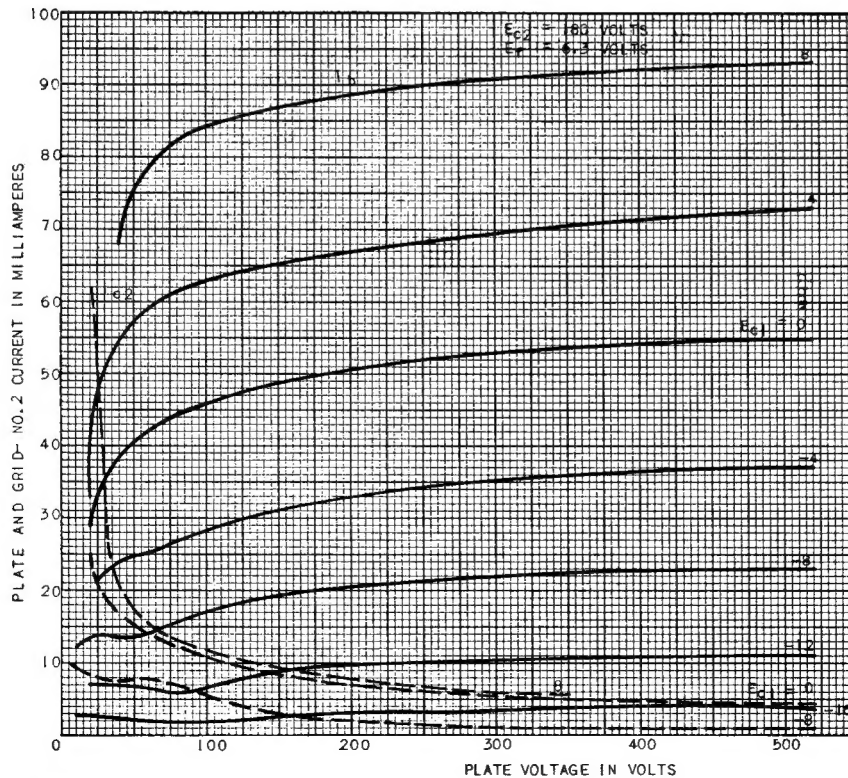
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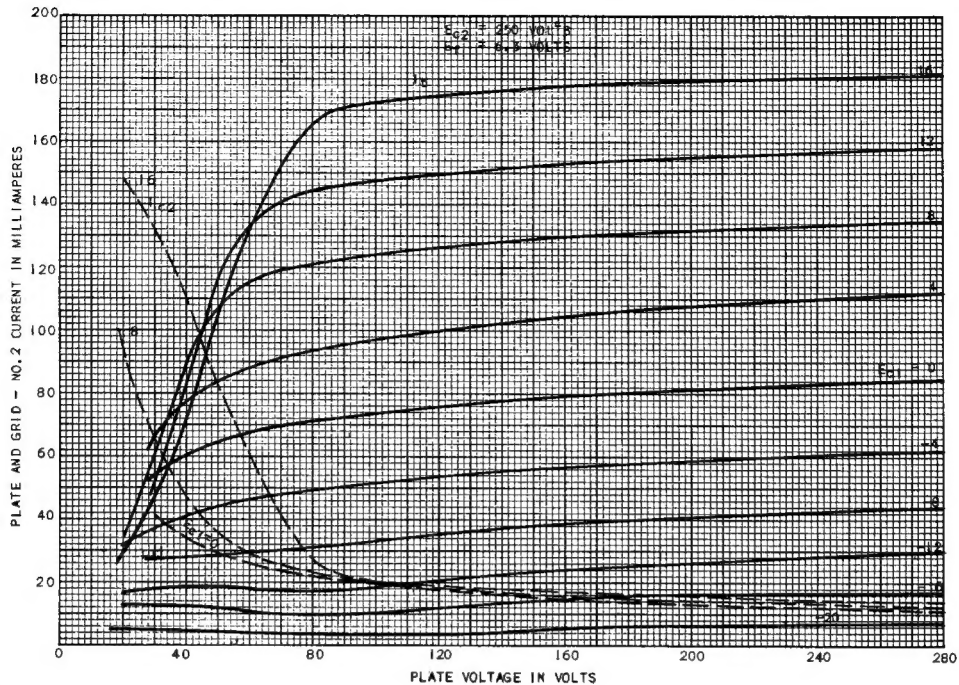
GL-5686
AVERAGE PLATE CHARACTERISTICS
 $E_{c2} = 180$ VOLTS
 $E_f = 6.3$ VOLTS



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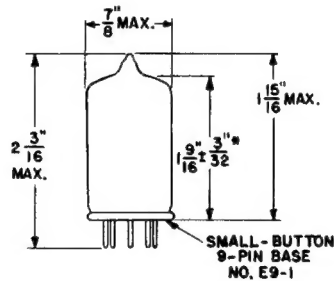
GL-5686
AVERAGE PLATE CHARACTERISTICS
 $E_{c2} = 250$ VOLTS $E_f = 6.3$ VOLTS



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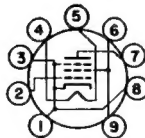
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OUTLINE GL-5686



*MEASURED FROM BASE SEAT TO BULB-TOP LINE
AS DETERMINED BY RING GAGE OF 7/16" I.D.

BASING DIAGRAM



- PIN 1: CATHODE AND GRID NO. 3
- PIN 2: GRID NO. 1
- PIN 3: CATHODE AND GRID NO. 3
- PIN 4: HEATER
- PIN 5: HEATER
- PIN 6: GRID NO. 2
- PIN 7: PLATE
- PIN 8: CATHODE AND GRID NO. 3
- PIN 9: GRID NO. 2

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